

# Bachelor of Arts in Astronomy

The Bachelor of Arts in astronomy requires 120 credit hours, including 20 hours in astronomy, 26 hours in physics, 14 hours in math, 3 hours in computer programming, and 6 hours in technical electives.

Required 200 Level Courses	6
<a href="#">ASTR 221</a> Stars and Planets	
<a href="#">ASTR 222</a> Galaxies and Cosmology	
Required 300 Level Courses	5
<a href="#">ASTR 306</a> Astronomical Techniques	
<a href="#">ASTR 309</a> Astrophysics Seminar I	
<a href="#">ASTR 310</a> Astrophysics Seminar II	
Additional 300 Level Courses—3 of 4 Required	9
<a href="#">ASTR 311</a> Stellar Physics	
<a href="#">ASTR 323</a> The Local Universe	
<a href="#">ASTR 328</a> Cosmology and the Structure of the Universe (Additional required courses)	
<a href="#">ASTR 333</a> Dark Matter	
Additional required courses	
<a href="#">MATH 121</a> Calculus for Science and Engineering I	4
<a href="#">MATH 122</a> Calculus for Science and Engineering II	4
or <a href="#">MATH 124</a> Calculus II	
<a href="#">MATH 223</a> Calculus for Science and Engineering III	3
or <a href="#">MATH 227</a> Calculus III	
<a href="#">MATH 224</a> Elementary Differential Equations	3
or <a href="#">MATH 228</a> Differential Equations	
<a href="#">PHYS 121</a> General Physics I - Mechanics	4
or <a href="#">PHYS 123</a> Physics and Frontiers I - Mechanics	
<a href="#">PHYS 122</a> General Physics II - Electricity and Magnetism	4
or <a href="#">PHYS 124</a> Physics and Frontiers II - Electricity and Magnetism	
<a href="#">PHYS 221</a> Introduction to Modern Physics	3
<a href="#">PHYS 250</a> Computational Methods in Physics	3
<a href="#">PHYS 310</a> Classical Mechanics	3
<a href="#">PHYS 313</a> Thermodynamics and Statistical Mechanics	3
<a href="#">PHYS 324</a> Electricity and Magnetism I	3
<a href="#">PHYS 331</a> Introduction to Quantum Mechanics I	3
<a href="#">ENGR 131</a> Elementary Computer Programming	3
Approved technical electives (consult advisor for other acceptable classes)	6
<a href="#">PHYS 204</a> Advanced Instrumentation Laboratory	

[PHYS 316](#) Introduction to Nuclear and Particle Physics

[PHYS 325](#) Electricity and Magnetism II

[PHYS 326](#) Physical Optics

[PHYS 332](#) Introduction to Quantum Mechanics II

Total Units

69

Six hours of mathematics and natural science (physics) are double counted towards the SAGES breadth requirements, and one required math course is double counted towards the SAGES Quantitative Reasoning requirement.

### Sample Plan of Study: Bachelor of Arts in Astronomy

	Units	
	Fall	Spring
Calculus for Science and Engineering I ( <a href="#">MATH 121</a> )	4	
General Physics I - Mechanics ( <a href="#">PHYS 121</a> )	4	
SAGES First Seminar	4	
PHED (2 half semester courses)	0	
Social Science I	3	
Calculus for Science and Engineering II ( <a href="#">MATH 122</a> ) or Calculus II ( <a href="#">MATH 124</a> )		4
General Physics II - Electricity and Magnetism ( <a href="#">PHYS 122</a> )		4
Elementary Computer Programming ( <a href="#">ENGR 131</a> )		3
PHED (2 half semester courses)		0
Doing Astronomy ( <a href="#">ASTR 151</a> )*		1
Social Science II		3
Year Total:	15	15

	Units	
	Fall	Spring
Stars and Planets ( <a href="#">ASTR 221</a> )	3	
Calculus for Science and Engineering III ( <a href="#">MATH 223</a> ) or Calculus III ( <a href="#">MATH 227</a> )	3	
Introduction to Modern Physics ( <a href="#">PHYS 221</a> )	3	
SAGES University Seminar	3	
Galaxies and Cosmology ( <a href="#">ASTR 222</a> )		3
Elementary Differential Equations ( <a href="#">MATH 224</a> ) or Differential Equations ( <a href="#">MATH 228</a> )		3
Computational Methods in Physics ( <a href="#">PHYS 250</a> )		3
Classical Mechanics ( <a href="#">PHYS 310</a> )		3

SAGES University Seminar	3
Year Total:	12 15

	Units	
	Fall	Spring
Cosmology and the Structure of the Universe ( <a href="#">ASTR 328</a> )	3	
Thermodynamics and Statistical Mechanics ( <a href="#">PHYS 313</a> )	3	
Arts & Humanities I	3	
Arts & Humanities II	3	
Technical Elective	3	
Stellar Physics ( <a href="#">ASTR 311</a> )		3
Electricity and Magnetism I ( <a href="#">PHYS 324</a> )		3
Quantitative Reasoning		3
Technical Elective		3
Year Total:	15	12

	Units	
	Fall	Spring
Astronomical Techniques ( <a href="#">ASTR 306</a> ) <sup>a</sup>	3	
Astrophysics Seminar I ( <a href="#">ASTR 309</a> )	1	
Introduction to Quantum Mechanics I ( <a href="#">PHYS 331</a> )	3	
Astronomy Capstone Project ( <a href="#">ASTR 351</a> ) <sup>b</sup>	1 - 3	
Global and Cultural Diversity	3	
Astrophysics Seminar II ( <a href="#">ASTR 310</a> )		1
Dark Matter ( <a href="#">ASTR 333</a> )		3
Astronomy Capstone Project ( <a href="#">ASTR 351</a> ) <sup>b</sup>		1 - 3
Year Total:	11-13	5-7

Total Units in Sequence: 100-104

a 300-level astronomy courses: three of the following five are required: [ASTR 306](#), [ASTR 311](#), [ASTR 323](#), [ASTR 328](#), [ASTR 333](#).

b A SAGES Capstone Experience is required of all students. The BA in astronomy does not require the astronomy capstone but only that a capstone be taken. The number of hours shown assumes the astronomy capstone with 1 hour in the senior fall semester and 3 hours in the senior spring semester. If another capstone is taken, the number of hours may be different.

\* Suggested, but not required for the major.

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